THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
5000 W. CAREFREE HIGHWAY
PHOENIX, AZ 85086-5000
(602) 942-3000 • WWW.AZGFD.GOV
REGION V, 555 N. GREASEWOOD ROAD, TUCSON, AZ 85745

January 8, 2018

U.S. Environmental Protection Agency, Region 9
Drinking Water Protection Section, Mail CodeWTR-3-2
75 Hawthorne Street
San Francisco, CA 94105
Attention: Nancy Rumrill

Electronically sent 1/8/2018 to:
rumrill.nancy@epa.gov

Re: Notice of Intent to Issue Class II Underground Injection Control Area Permit and Proposed Approval of an Aquifer Exemption for Excelsior Mining Arizona, Inc.'s Gunnison Copper Project

Dear Ms. Rumrill:

The Arizona Game and Fish Department (Department) understands that the United States Environmental Protection Agency, Region 9 (EPA) is soliciting public comments on its proposal to issue a Class III Underground Injection Control (UIC) Area Permit for Excelsior Mining Arizona, Inc. (Excelsior) to construct and operate an in-situ copper recovery (ISCR) facility known as the Gunnison Copper Project (Project) near the Town of Willcox, Arizona.

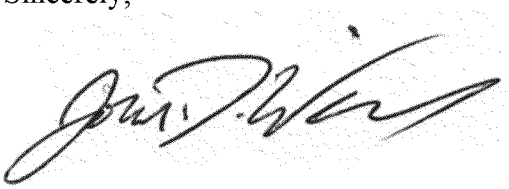
The Class III UIC Area Permit, if issued, would authorize Excelsior to inject a dilute sulfuric acid solution into the copper orebody and recover copper-laden solution for the purpose of producing copper. EPA proposes to issue the permit and the authorization to construct, test, and inject at the proposed Project site for twenty (20) years, followed by aquifer restoration and closure operations for three (3) years and a post-rinsing monitoring period of five (5) years. The injection interval would be the copper oxide orebody present within the Oxide Bedrock Zone at the Project site. It is a bedrock formation that was formed as coatings on rock fractures and as vein fill that is approximately 400 to 1,400 feet below ground surface. The wellfield area is approximately 192 acres in areal extent.

The Department has public trust responsibility for wildlife, a public resource, irrespective of land ownership. We have attached a report from our Environmental Review Tool generated for the general project area. There are a significant number of wildlife species which may occur in the area, including such federally listed species as the lesser long-nosed bat and Chiricahua leopard frog. Impacts to wildlife and habitat within the 192 acre footprint of the project should be evaluated as well as potential impacts to surface water within and nearby the project area. As this

project may have significant impacts on wildlife, and could not occur but for issuance of the UIC Area Permit, it appears the project may require review under the National Environmental Policy Act (NEPA). Should the EPA determine that a NEPA process is prudent, the Department requests cooperation and/or coordination under the NEPA.

The Department thanks the EPA for providing us this opportunity to comment on this project. Please feel free to contact me with any comments on this letter at jwindes@azgfd.gov or 520-628-5376.

Sincerely,



John Windes
Habitat Evaluation and Lands Program Manager Region V

Enclosure: Environmental Review Tool Report

AGFD Log# M17-10254824

Arizona Environmental Online Review Tool Report

Arizona Game and Fish Department Mission
To conserve Arizona's diverse wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

Project Name:
Gunnison Excelsior Copper Mining

User Project Number:
M17-10254824

Project Description:
In situ copper extraction using extraction wells

Project Type:
Mining, Extraction Other minerals (copper, limestone, cinders, shale, salt), Other minerals (copper, limestone, cinders, shale, salt)

Contact Person:
Region5 Habitat Program

Organization:
Arizona Game and Fish Department

On Behalf Of:
EPA

Project ID:
HGIS-06602

Please review the entire report for project type and/or species recommendations for the location information entered. Please retain a copy for future reference.

Disclaimer:

1. This Environmental Review is based on the project study area that was entered. The report must be updated if the project study area, location, or the type of project changes.
2. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area. This review is also not intended to replace environmental consultation (including federal consultation under the Endangered Species Act), land use permitting, or the Departments review of site-specific projects.
3. The Departments Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. HDMS data contains information about species occurrences that have actually been reported to the Department. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented
4. HabiMap Arizo l) under our State Wildlife Action e (SERI), represent potential speci ngoing change, modification ar and the availability of new data will n

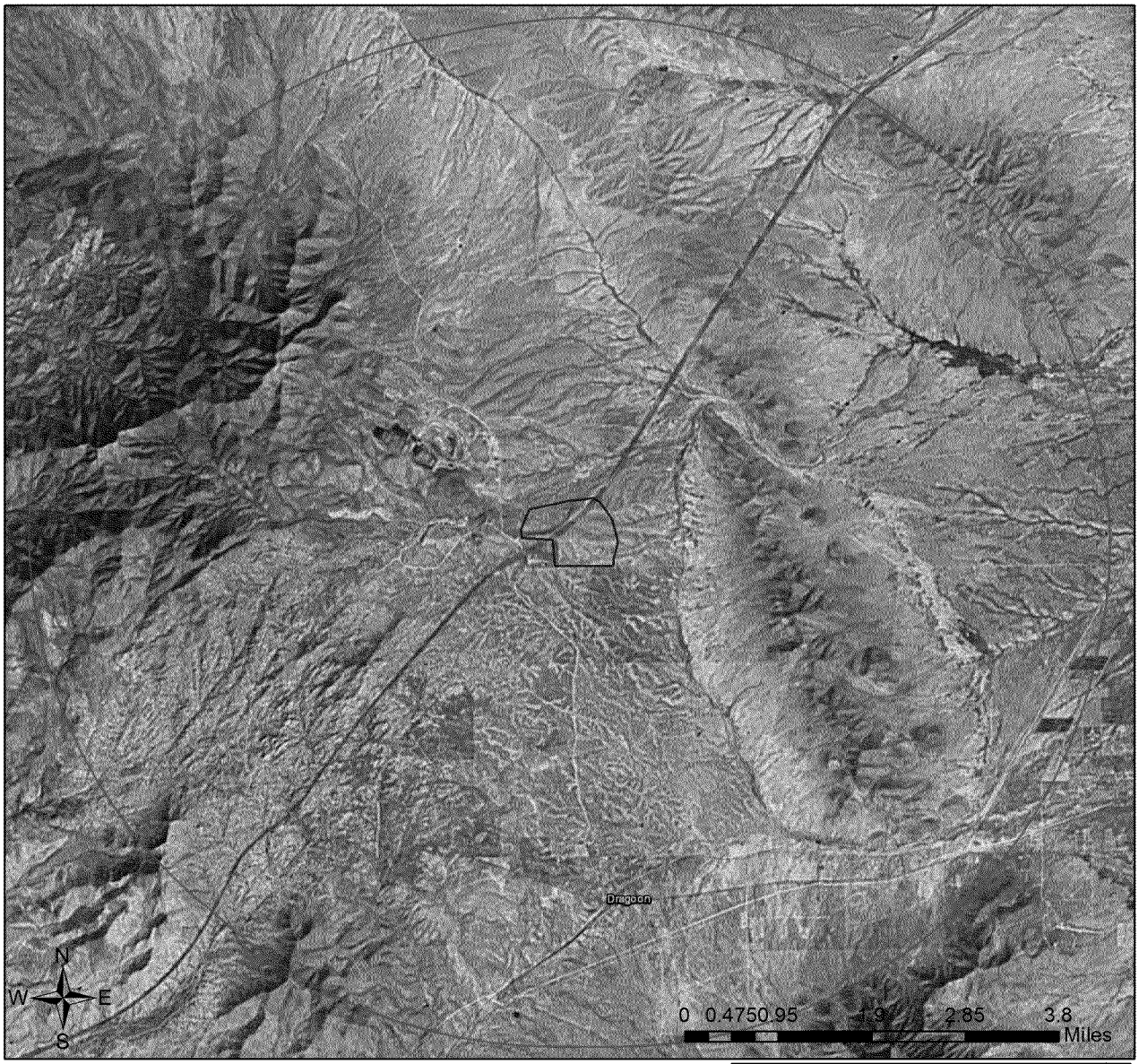
Locations Accuracy l
Project locations are a mental review. The creator/owner of the P d thus the correctness of the Project Review l

Recommendations Disclaimer:

1. The Department is interested in the conservation of all fish and wildlife resources, including those species listed in this report and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
2. Recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation).
3. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project. These recommendations are preliminary in scope, designed to provide early considerations on all species of wildlife.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. Further coordination with the Department requires the submittal of this Environmental Review Report with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how constructi nformation (including site map). Onc pletion of project reviews. Send
   Project Evalua
   Arizona Game
   5000 West Ca
   Phoenix, Ariz
   Phone Numbe
   Fax Number: (
   Or
   PEP@azgfd.gc
6. Coordination n NEPA) and/or Endangered Sp during further NEPA/ESA ana

Gunnison Excelsior Copper Mining

Aerial Image Basemap With Locator Map



Project Boundary

Buffered Project Boundary

Project Size (acres): 323.45

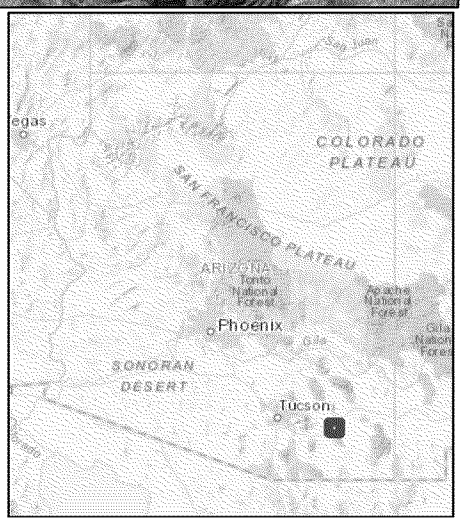
Lat/Long (DD): 32.0845 / -110.0425

County(s): Cochise

AGFD Region(s): Tucson

Township/Range(s): T15S, R22E; T15S, R23E; T16S, R23E

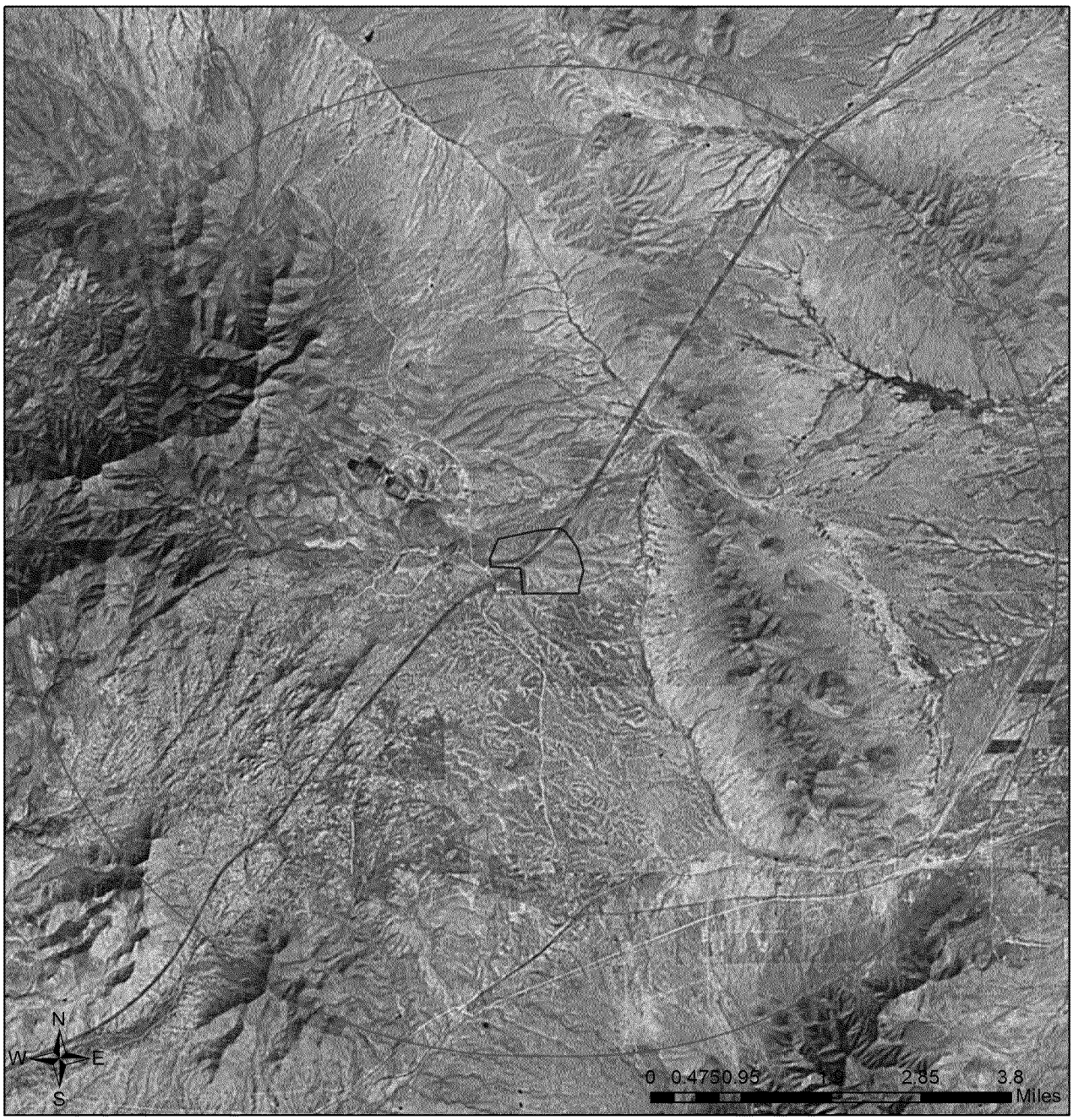
USGS Quad(s): DRAGOON



Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo,

Gunnison Excelsior Copper Mining

Web Map As Submitted By User



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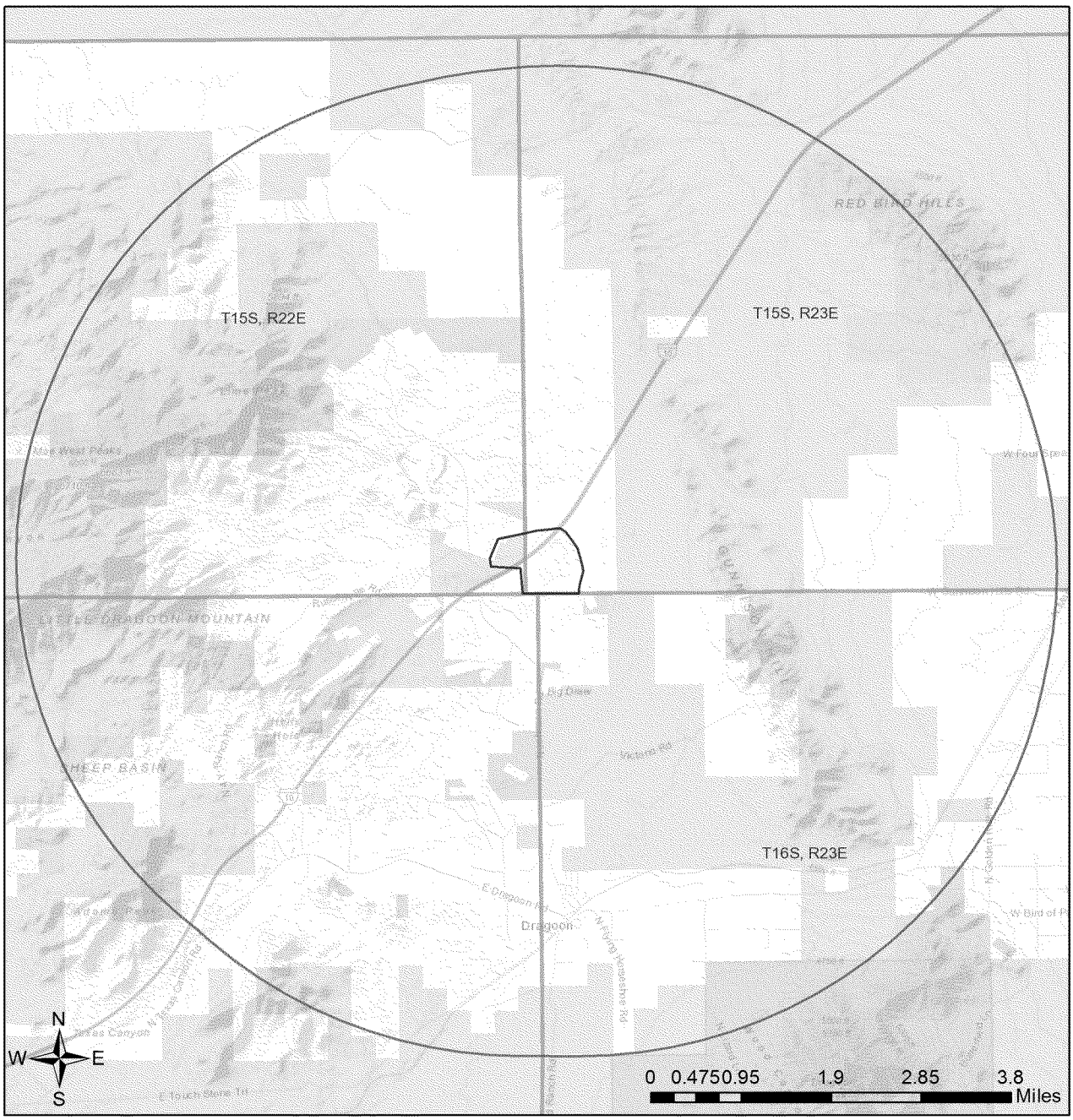
USGS Quad(s): DRAGOON

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Gunnison Excelsior Copper Mining

Topo Basemap With Township/Ranges and Land Ownership



- Project Boundary
- Buffered Project Boundary
- Township/Ranges

Land Ownership

- AZ Game and Fish Dept.
- BLM
- BOR
- Indian Res.
- Military
- Mixed/Other
- National Park/Mon.
- Private
- State and Regional Parks
- State Trust
- US Forest Service
- Wildlife Area/Refuge

Project Size (acres): 323.45

Lat/Long (DD): 32.0845 / -110.0425

County(s): Cochise

AGFD Region(s): Tucson

Township/Range(s): T15S, R22E; T15S, R23E; T16S, R23E

USGS Quad(s): DRAGOON

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Special Status Species and Special Areas Documented within 5 Miles of Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Aquila chrysaetos	Golden Eagle	BGA		S		1B
Choeronycteris mexicana	Mexican Long-tongued Bat	SC	S	S		1C
Coryphantha scheeri var. valida	Slender Needle Corycactus				SR	
Echinomastus erectocentrus var. erectocentrus	Needle-spined Pineapple Cactus	SC			SR	
Hypsiglena sp. nov.	Hooded Nightsnake					1B
Leptonycteris curasoae yerbabuenae	Lesser Long-nosed Bat	LE				1A
Lithobates blairi	Plains Leopard Frog			S		1A
Lithobates chiricahuensis	Chiricahua Leopard Frog	LT				1A
Mammillaria viridiflora	Varied Fishhook Cactus				SR	
Mammillaria wrightii var.					SR	
Phrynosoma cornutum						
Terrapene ornata luteola				S		1A

Note: Status code definiti uidelines/statusdefinitions/
.

Predic **Models**

Scientific Name	BLM	NPL	SGCN
Accipiter gentilis atricapill			1B
Agosia chrysogaster	S		1B
Aix sponsa			1B
Amazilia violiceps			1B
Ammodramus savannaru ammolegus	S		1B
Ammodramus savannaru perpallidus			1B
Ammospermophilus harri			1B
Anthus spragueii			1A
Antilocapra americana americana			1B
Aquila chrysaetos	S		1B
Athene cunicularia hypugaea	S		1B
Buteo regalis	S		1B
Catostomus clarkii	S		1B
Chordeiles minor			1B
Coccothraustes vespertinus			1B
Coccyzus americanus			1A
Coluber bilineatus			1B
Corynorhinus townsendii pallescens	S		1B

Species of Greatest Conservation Need
Predicted within 5 Miles of Project Vicinity based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Crotalus lepidus klauberi	Banded Rock Rattlesnake					1A
Crotalus tigris	Tiger Rattlesnake					1B
Cynanthus latirostris	Broad-billed Hummingbird		S			1B
Cynomys ludovicianus	Black-tailed Prairie Dog	CCA		S		1A
Dipodomys spectabilis	Banner-tailed Kangaroo Rat			S		1B
Empidonax traillii extimus	Southwestern Willow Flycatcher	LE				1A
Euderma maculatum	Spotted Bat	SC	S	S		1B
Eugenes fulgens	Magnificent Hummingbird					1B
Eumops perotis californicus	Greater Western Bonneted Bat	SC		S		1B
Falco peregrinus anatum				S		1A
Glaucidium gnoma gnom						1B
Haliaeetus leucocephalus				S		1A
Heloderma suspectum						1A
Hypsiglena sp. nov.						1B
Ictinia mississippiensis						1B
Idionycteris phyllotis				S		1B
Incilius alvarius						1B
Junco phaeonotus						1B
Kinosternon sonoriense s				S		1B
Lampornis clemenciae						1B
Lasiurus blossevillii						1B
Lasiurus xanthinus						1B
Leopardus pardalis						1A
Leptonycteris curasoae yerbabuenae						1A
Lepus alleni						1B
Lithobates blairi				S		1A
Lithobates chiricahuensis	Chiricahua Leopard Frog	LT				1A
Megascops trichopsis	Whiskered Screech-owl		S			1B
Melanerpes uropygialis	Gila Woodpecker					1B
Meleagris gallopavo mexicana	Gould's Turkey		S			1B
Melospiza lincolnii	Lincoln's Sparrow					1B
Melozone aberti	Abert's Towhee		S			1B
Micruroides euryxanthus	Sonoran Coralsnake					1B
Myiarchus tuberculifer	Dusky-capped Flycatcher					1B
Myiodynastes luteiventris	Sulphur-bellied Flycatcher		S			1B
Myotis occultus	Arizona Myotis	SC		S		1B
Myotis velifer	Cave Myotis	SC		S		1B

Species of Greatest Conservation Need
Predicted within 5 Miles of Project Vicinity based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Myotis yumanensis	Yuma Myotis	SC				1B
Notiosorex cockrumi	Cockrum's Desert Shrew					1B
Nyctinomops femorosaccus	Pocketed Free-tailed Bat					1B
Odocoileus virginianus	White-tailed Deer					1B
Panthera onca	Jaguar	LE				1A
Passerculus sandwichensis	Savannah Sparrow					1B
Peromyscus nasutus	Northern Rock Deermouse					1B
Peucaea botterii arizonae	Arizona Botteri's Sparrow			S		1B
Peucaea carpalis	Rufous-winged Sparrow					1B
Phrynosoma solare						1B
Picoides arizonae						1B
Progne subis hesperia				S		1B
Sceloporus slevini				S		1B
Setophaga petechia						1B
Sonorella christenseni						1B
Sonorella grahamensis						1B
Sorex arizonae						1B
Strix occidentalis lucida						1A
Tadarida brasiliensis						1B
Terrapene ornata						1A
Thomomys umbrinus inte						1B
Troglodytes pacificus						1B
Vireo bellii arizonae						1B
Vulpes macrotis						1B

Species of Ec **Project Vicinity**

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Antilocapra americana americana	America Pronghorn					1B
Callipepla gambelii	Gambel's Quail					
Callipepla squamata	Scaled Quail					1C
Cyrtonyx montezumae	Montezuma Quail					1C
Odocoileus hemionus	Mule Deer					
Odocoileus virginianus	White-tailed Deer					1B
Patagioenas fasciata	Band-tailed Pigeon					1C
Pecari tajacu	Javelina					
Puma concolor	Mountain Lion					
Ursus americanus	American Black Bear					
Zenaida asiatica	White-winged Dove					

Species of Economic and Recreation Importance Predicted within 5 Miles of Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Zenaida macroura	Mourning Dove					

Project Type: Mining, Extraction Other minerals (copper, limestone, cinders, shale, salt), Other minerals (copper, limestone, cinders, shale, salt)

Project Type Recommendations:
Fence recommendations will be dependant upon the goals of the fence project and the wildlife species expected to be impacted by the project. General guidelines for ensuring wildlife-friendly fences include: barbless wire on the top and bottom with the maximum fence height 42", minimum height for bottom 16". Modifications to this design may be considered for fencing anticipated to be routinely encountered by elk, bighorn sheep or pronghorn (e.g., Pronghorn fencing would require 18" minimum height on the bottom). Please refer to the Department's Fencing Guidelines located on Wildlife Friendly Guidelines page, which is part of the Wildlife Planning button at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/

During the planning stage life in regards to movement, connectivity, and access t essing resources, finding mates, reduces gene flow may have occurred, and ultimately prevents wildlife dispersal, control of prey numbers, and resistance tural movement corridors for wildlife and should be sity of species, and should be contained within impor y and ecosystem functions can be facilitated through promote passage for a variety of wildlife. Guidelir at: https://www.azgfd.com

Consider impacts of outdo be taken to increase human safety while minim ine species within project area, and evaluate propos ine if artificial lighting may disrupt behavior patterns fety. Narrow spectrum bulbs should be used as often a ting should be shielded, canted, or cut to ensure th

Minimize potential introdu plants, animals (exotic snails), and other organis ons or compete with or prey upon native species and c wildfire risk). The terms noxious weed or invasive to wash all equipment utilized in the project activities before leaving the site. Arizona has noxious weed regulations (Arizona Revised Statutes, Rules R3-4-244 and R3-4-245). See Arizona Department of Agriculture website for restricted plants, https://agriculture.az.gov/. Additionally, the U.S. Department of Agriculture has information regarding pest and invasive plant control methods including: pesticide, herbicide, biological control agents, and mechanical control, http://www.usda.gov/wps/portal/usdahome. The Department regulates the importation, purchasing, and transportation of wildlife and fish (Restricted Live Wildlife), please refer to the hunting regulations for further information https://www.azgfd.com/hunting/regulations.

Minimization and mitigation of impacts to wildlife and fish species due to changes in water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency of floods) should be evaluated. Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing of the project in order to minimize impacts to spawning fish and other aquatic species (include spawning seasons), and to reduce spread of exotic invasive species. We recommend early direct coordination with Project Evaluation Program for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

Based on the project type entered, coordination with the Office of Surface Mining may be required (http://www.osmre.gov/index.shtm).

Based on the project type entered, coordination with the Environmental Protection Agency may be required (http://www.epa.gov/).

Based on the project type entered, coordination with State Historic Preservation Office may be required (http://azstateparks.com/SHPO/index.html).

Pre- and post-survey/monitoring should be conducted to determine alternative access/exits to mines and to identify and/or minimize potential impacts to bat species. For further information when developing alternatives to mine closures, contact the Arizona Game and Fish Department Nongame Bat Coordinator at the Main Office in Terrestrial Branch, https://www.azgf

Based on the project type uality may be required (http://www.azdeq.gov/).

Based on the project type ; may be required (http://www.azwater.gov/a

Vegetation restoration pro e a completed site-evaluation plan (identifyin ion), a revegetation plan (species, density, method adaptive management guidelines to address nee

Avoid/minimize wildlife im ances in facility water collection/storage basins, lopes to discourage wading birds and use fencing, net

Project Location and/or
HDMS records indicate th and Antiquities Act have been documented within t
Arizona Department of Ag
1688 W Adams St.
Phoenix, AZ 85007
Phone: 602.542.4373
https://agriculture.az.gov/environmental-services/np1

HDMS records indicate that one or more listed, proposed, or candidate species or Critical Habitat (Designated or Proposed) have been documented in the vicinity of your project. The Endangered Species Act (ESA) gives the US Fish and Wildlife Service (USFWS) regulatory authority over all federally listed species. Please contact USFWS Ecological Services Offices at http://www.fws.gov/southwest/es/arizona/ or:

Phoenix Main Office
2321 W. Royal Palm Rd, Suite 103
Phoenix, AZ 85021
Phone: 602-242-0210
Fax: 602-242-2513

Tucson Sub-Office
201 N. Bonita Suite 141
Tucson, AZ 85745
Phone: 520-670-6144
Fax: 520-670-6155

Flagstaff Sub-Office
SW Forest Science Complex
2500 S. Pine Knoll Dr.
Flagstaff, AZ 86001
Phone: 928-556-2157
Fax: 928-556-2121

HDMS records indicate th ıity of your project area.
Please review the Chirica
at:
https://www.azgfd.com/Pc LLithchirHabitatGdlns.pdf

HDMS records indicate th ty of your project area.
Please review the Lesser
at: https://www.azgfd.com NALlecuyeHabitatGdln.pdf